

CLAIMS

1. A programmed drug delivery system comprising :

(f) a core composition comprising one or more beneficial agents and pharmaceutically acceptable excipients, wherein at least one excipient swells when exposed to an aqueous environment,

(g) a coat surrounding the core composition, wherein the coat is impermeable to the beneficial agent and other core components, but may be permeable or impermeable to water,

(h) a passageway in the coat,

(i) a composition applied so as to cover the passageway, and

(j) optionally, an immediate release composition comprising the same or different beneficial agent.

2. A programmed drug delivery system as claimed in claim 1 wherein the passageway is covered with a polymer composition comprising a polymer selected from the group consisting of water soluble polymer, water swellable polymer, pH-dependent polymer and a mixture thereof

3. A programmed drug delivery system as claimed in claim 1 wherein the beneficial agent is selected from agents that are susceptible to the gastric environment.

4. A programmed drug delivery system as claimed in claim 1 wherein the beneficial agent is selected from agents that are targeted to the intestine for local action.

5. A programmed drug delivery system as claimed in claim 1 wherein the beneficial agent is selected from agents that cause bleeding or irritation of the gastric mucosa.

6. A programmed drug delivery system as claimed in claim 1 wherein the composition used to cover the passageway is such that it releases the contents of the core at a predetermined time after oral administration.

7. A programmed drug delivery system as claimed in claim 1 wherein the composition used to cover the passageway is such that it releases the contents of the core at a predetermined location in the gastrointestinal tract after oral administration.

8. A programmed drug delivery system as claimed in claim 1, wherein the system provides delayed release of the beneficial agent.

9. A programmed drug delivery system as claimed in claim 1 wherein the system provides timed release of the beneficial agent.

10. A programmed drug delivery system as claimed in claim 1 wherein the system provides pulsatile delivery of the beneficial agent.

11. A programmed drug delivery system as claimed in claim 1 wherein the system provides controlled release of the beneficial agent.
12. A programmed drug delivery system as claimed in claim 1 wherein the system provides an immediate release of a beneficial agent followed by a delayed controlled release of the same or different beneficial agent, the delay being dependent on gastric emptying time.
13. A programmed drug delivery system as claimed in claim 1 wherein the system provides an immediate release of a beneficial agent followed by a timed controlled release of the same or different beneficial agent, the delay being independent of gastric emptying time.
14. A programmed drug delivery system as claimed in claim 1 wherein the system provides an immediate release of a beneficial agent followed by a delayed release of the same or different beneficial agent in a conventional manner, the delay being dependent on gastric emptying time.
15. A programmed drug delivery system as claimed in claim 1, wherein the system provides an immediate release of a beneficial agent followed by delayed release of another beneficial agent, the delay being independent of gastric emptying time.
16. A programmed drug delivery system as claimed in claim 1 wherein the system provides delivery of the beneficial agent to a targeted site.
17. A programmed drug delivery system as claimed in claim 16 wherein the delivery is in the form of a pulse.
18. A programmed drug delivery system as claimed in claim 16 wherein the beneficial agent is delivered in a rate controlled manner.